Reale accademia dei Lincei. Atti. Roma. v. 17. 1. sem. Fasc. 3.
Trabacchi, C. C. La dispersione elettrica in un luogo sotterraneo chiuso. p. 106–107.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

H. H. KIMBALL, Librarian.

The following titles have been selected from among the books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be loaned for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a ——.

Akerblom, F.
Recherches sur les courants les plus bas de l'atmosphère au dessus de Paris. Upsala. 1908. 45 p. 4° (Nova acta Regiae societatis scientiarum Upsaliensis. Ser. 4. Vol. 2. N. 2.)

Batavia. Royal magnetical and meteorological observatory.
Observations made at the . . . Vol. 28, 1905. Batavia. 1907. xxxvii, 198 p. f°.
Appendices 1–3. Batavia. 1907.

Brendel, Bruno.
Die meteorologischen Elemente der Ostsee-Insel Poel auf Grund 25-jähriger Beobachtungen. Ein Beitrag zur Klimatologie von Mecklenburg-Schwerin. 1906. 56 p. f°. (Beiträge zur Statistik Mecklenburgs. Vom Grossherzoglichen statistischen Amt zu Schwerin. 15 Bd. 1 Heft.)

Costanzo, G. and Negro, C.
Dispersione electrica in giornate temporalesche. (Estratto dagli Atti della Pontificia accademia Romana dei nuovi Lincei. Anno 61. Sessione 1 del 15 dicembre 1907) 6 p. 4°.

Dewar, Daniel.
Atmospheric movements for 1907–8. [London.] 3 p. 24°.

Eiffel, G.
Recherches expérimentales sur la résistance de l'air, exécutés à la Tour Eiffel. Paris. 1907. vi, 98 p. f°.

Eredia, Filippo.
Il regime pluviometrica sulle coste italiane. Roma. 1907. 7 p. 4°. (Estratto dalla Rivista agraria della 1 decade di Novembre 1907.)

Eredia, Filippo.
L'umidità relativa dell'aria sulla riviera Ligure. Roma. 1907. 6 p. 4°.

Fischer, Alfred.
Die Hurricanes oder Drehstürme Westindiens. Gotha. 1908. 70 p. 4°. (Petermann's Mitteilungen Ergänzungsheft Nr. 159.)

Fitzner, Rudolf.
Niederschlag und Bewölkung in Kleinasien. Gotha. 1902. 90 p. 4°. (Petermann's Mitteilungen Ergänzungsheft Nr. 140.)

Gilbert, Otto.
Die meteorologischen Theorien des griechischen Altertums. Leipzig. 1907. iv, 746 p. 8°.

Gregory, J. W.
Climatic variations; their extent and causes. México. 1906. 24 p. 4°.

Hildebrandt, A.
Die Luftschiffahrt nach ihrer geschichtlichen und gegenwärtigen Entwicklung. München. 1907. v, 426 p. 8°. [Contains a chapter on upper air research, with illustrations, including several portraits.]

Hoffmann, Immanuel.
Die Anschauungen der Kirchenväter über Meteorologie. Ein Beitrag zur Geschichte der Meteorologie. München. 1907. viii, 96 p. 8°. (Münchener geographische Studien. 22. Stück.)

India. Meteorological department. Calcutta.
Memorandum on the meteorology of India during Oct. and Nov. 1907... Calcutta. 1908. 5 p. f°.

International meteorological committee.
Règlement de l'organisation météorologique internationale [with lists of members of the International committee and subcommittees]. Berlin. 1908. n. p. 4°. (Circ. n. s. Nr. 2.)

Internationale seismologische Assoziation.
Verhandlungen der vom 16 bis 20 Oktober 1906 in Rom abgehaltenen ersten Tagung der permanenten Kommission der Internationalen seismologischen Assoziation. 207 p. f°.

Japan. Central meteorological observatory.
Results of the meteorological observations made in Japan for each period of five years since 1876 and for the 10, 15, 20, 25, 30 years ending 1905. Tokio. 1906. 159 p. 4°.

Jersey. Observatoire St. Louis.
Bulletin des observations magnétiques et météorologiques. 14. année 1907. Jersey. 1907–8. 34 p. 4°.

Juiz de Fora. Serviço meteorologico.
Boletin do anno de 1907. [Juiz de Fóra. 1908.] 8°.

Krause, —.
Kurze Anleitung zum Verständnis des öffentlichen Wetternachrichtendienstes und der Wetterkarten. Pless. 1907.

Krisch, —.
Barometrische Höhenmessungen und Reduzierungen zum praktischen Gebrauche von Jelineks Tafeln. Wien. 1907. 44 p. 4°.

Livingston, Burton Edward.
The relation of desert plants to soil moisture and to evaporation. Washington. 1906. 78 p. 8°.

Longstaff, T. G.
Mountain sickness and its probable causes. London. 1906. 56°. 8°.

Macnab, John.
Catechism of the laws of storms for the use of sea officers... London. 1907. 5th ed. 70 p. 12°.

Madrid. Observatorio.
Resumen de las observaciones meteorológicas efectuadas en la Peninsula y algunas de sus islas adyacentes durante los años 1899 y 1900. Madrid. 1906. xvi, 356 p. 8°.

Moscow. Imperial university. Meteorological observatory.
Beobachtungen... 1903. Moscow. 1907. 108 p. 8°.
Same. 1904. Moscow. 1907. 109 p. 8°.

Oddone, Emilio.
Les tremblements de terre ressentis pendant l'année 1904. Strassburg. 1907. xi, 361 p. 4°. (Publications du Bureau central de l'Association internationale de sismologie. Série B. Catalogues.)

Oklahoma agricultural experiment station.
Sixteenth annual report, 1906–7. Stillwater, Okla. [1907.] 63 p. 8°. [Includes data of precipitation, by years, 1889–1906.]

Rosenthal, Elmar.
Katalog der im Jahre 1904 registrierten seismischen Störungen. Strassburg. 1907. xii, 145 p. 4°. (Publications du Bureau central de l'Association internationale de sismologie. Série B. Catalogues.)

Schultheiss, Chr.
Die Niederschlags-Verhältnisse des Rheingebietes. Karlsruhe. 1890. 28 p. 4°.

Scottish national antarctic expedition.
Report on the scientific results of the voyage of S. Y. *Scotia* during the years 1902, 1903, and 1904, under the leadership of William S. Bruce. v. 2. –Physics. Pt. 1. –Meteorology, by R. C. Mossman. Pt. 2. –Magnetism, by Charles Chree. Pt. 3. –Tides, by Sir George H. Darwin. Edinburgh. 1907. v, 324 p. 4°.

Stevens, James Stacy.
Meteorological conditions at Orono, Me. Orono, 1907. 52 p. 8°. (The University of Maine studies. No. 7.) [Includes collected data from 1869; describes experiments on evaporation of liquids, and of snow and ice.]

Stormer, Carl.
On the trajectories of electric corpuscles in space under the influence of terrestrial magnetism . . . Kristiania. 1907. 47 p. 8°. (Archiv for mathematik og naturvidensk. Bd. 28. Nr. 2.)

Vincent, J.
Nouvelles recherches sur la température climatologique. Bruxelles. 1907. 120 p. f°. (Extrait des Annales météorologique de l'Observatoire royal de Belgique, année 1907, nouvelle série.)

Zi-ka-wei. Observatoire magnétique, météorologique et sismologique.
Bulletin des observations. Tome 31. Année 1905. Fascicule A. Magnétisme terrestre. Chang-hai. 1907. 64 p. f°.

NOTES FROM THE WEATHER BUREAU LIBRARY.

By C. FITZHUGH TALMAN, Assistant Librarian.

THE KITE STATION ON LAKE CONSTANCE.

Das Weltall for February 15, 1908, contains an illustrated description of the kite station at Friedrichshafen, on Lake Constance, which is to be opened April 1 of this year. This station was established and is to be maintained at the joint expense of the German Empire and the States of Bavaria, Württemberg, Baden, and Alsace-Lorraine, but will be attached especially to the meteorological service of Württemberg. An important part of its equipment is a small steamboat, the *Gna*, which will be used to lift the kites in calm or stormy weather. In the latter case the steamer will run with the wind, thus moderating its effect upon the kite. As Lake Constance is not far from the first-order meteorological station at the top of the Säntis, a good opportunity will be afforded to compare observations at a mountain station with those made in the free air at a similar altitude.

The establishment of this new station is a fresh proof of the great interest taken in upper air research by the German imperial and state governments, which already maintain the most complete aeronautical observatory of the world, at Lindenberg, Prussia, the kite station of the Deutsche Seewarte

at Gross-Borstel, near Hamburg, and institutions for upper air research at Strassburg (the headquarters of the International Committee for Scientific Aeronautics) and at Munich.

ALBERT LANCASTER (1849–1908).

M. Albert Benoît Marie Lancaster, Director of the Meteorological Service of Belgium, died at Brussels February 4, 1908. He was born at Mons, Belgium, in 1849; accompanied Houzeau, then director of the Royal Observatory of Belgium, to Texas to observe the transit of Venus in 1882, and was associated with Houzeau, in producing the great "Bibliographie Générale de l'Astronomie" and a popular treatise on meteorology. He was one of the founders of the fortnightly journal of astronomy and meteorology, Ciel et Terre, and for many years its principal editor. Besides numerous contributions to the scientific journals, he published an important collection of rainfall statistics for Belgium, "La pluie en Belgique" (Brussels, 1894). In 1903 Lancaster succeeded Snellen as a member of the International Meteorological Committee.

J. Vincent succeeds Lancaster, provisionally, as director of the Belgian service.

A NEW METEOROLOGICAL BULLETIN FROM BOLIVIA.

The Weather Bureau Library has received the first number of the "Boletin mensual del Servicio Meteorológico de la República Boliviana," issued by the Meteorological Observatory of La Paz, under the direction of the Bolivian Ministry of Colonization and Agriculture. The title of this publication is somewhat misleading, as the data contained relate solely to observations at La Paz. These are, however, published in much detail, and the editor of the bulletin states, in his introduction, that he will be glad to receive and publish meteorological observations from the agricultural "juntas," established in the several departments of the country, as well as from individuals interested in meteorology. It is to be hoped that this suggestion will be heeded, as but few statistics now exist concerning the climate of Bolivia, outside of La Paz.

THE LATE SIR RICHARD STRACHEY.

Lieut. Gen. Sir Richard Strachey, R. E., G. C. S. I., LL. D., F. R. S., died February 12, 1908, in his ninety-first year. A long and appreciative review of his career, by Mr. W. N. Shaw, who was intimately associated with him for many years in the administration of the British Meteorological Office, appears in Nature of February 27.

General Strachey's earlier scientific work was done in India. As head of the Public Works Department he had much to do with the creation and development of the admirable Indian meteorological service, and as president of the Famine Commission he investigated the physical causes of Indian famines. He also studied the physical geography and meteorology of the western Himalaya and Tibet. Some of the other subjects which engaged his attention during his long career were the relation of rainfall at Madras to the sun-spot period, the vertical distribution of aqueous vapor in the atmosphere, the barometrical disturbances and sounds produced by the eruption of Krakatoa, meteorological applications of the harmonic analysis, and the computation of mean daily temperatures and of accumulated temperatures, in connection with the latter of which he suggested the use of the term "day-degrees."

In 1884 he represented Great Britain at the Prime Meridian Conference at Washington. In 1873 he became a member of the meteorological committee of the Royal Society, later known as the Meteorological Council, and in 1883 its chairman, a post which he held until the council ceased to exist in 1905.

In 1906 he received the Symons Memorial Gold Medal of the Royal Meteorological Society.

A METEOROLOGICAL SERVICE IN FRENCH WEST AFRICA.

For many years the Central Meteorological Bureau of France has published in its annals the results of meteorological observations at a few widely scattered stations in French West Africa. One station, Gorée, was established as early as 1840. In 1903, after the consolidation of the colonies of French West Africa under a single administration, a local meteorological service was inaugurated, on the model of that which has existed for a number of years in French Indo-China, the director of the colonial medical service being placed at its head. Besides taking over the control of the old stations in this region, several new stations were established, and uniform methods of observation were adopted. Professor Mascart rendered valuable counsel and assistance in this undertaking.

At the end of 1905 the following stations were in operation: Dakar, St. Louis, and Sédhiou, in Senegal; Kaëdi, Tidjikdja, Boutilimit, Nouakchout and Mal, in Mauretania; Ségou, Bobo-Dioulasso, Kati, Sikasso, Gaoua, Bandiagara, and Kouri, in Upper Senegal and Niger; Timbuktu, Niamey, Zinder and Dori, in the "territoire militaire"; Konakri, Beyla, Kissidougou, Kouroussa, Kindia, Dittinn, and Touba, in French Guinea; Grand Bassam, Toumodi, Dabakala-Koroko, Séguela, and Bouaké, in the Ivory Coast colony; and Porto Novo and Parakou in Dahomey.

A history and description of the new service, together with pressure, temperature, humidity, and rainfall curves for certain stations for 1904 and 1905, was published in pamphlet form by the government of French West Africa, 1906, in connection with the colonial exposition at Marseille. A copy of this publication has recently been received in the Weather Bureau Library.[1]

THE WRECK OF THE AUSTRAL.

The Scottish Geographical Magazine reports the wreck of the *Austral*, the vessel recently sent out by the Argentine Meteorological Office to establish a meteorological station on Wandel Island. The valuable meteorological instruments were lost, and the establishment of the station will be delayed at least a year. This is to be one of several Argentine stations, some of which are already in operation, in the island groups to the southeast of the continent of South America. The *Austral* was formerly the *Français*, of Dr. Charcot's antarctic expedition.

METEOROLOGICAL CABLEGRAMS FROM ICELAND.

Nearly all the meteorological services of Europe, except France, now receive direct daily weather reports by cable from Iceland and the Faroes, each paying therefor an annual subscription of $1,200. Owing to the limited funds at its disposal, the French service is obliged to depend upon the British weather map for its reports from these islands, an arrangement that entails a delay of twenty-four hours and makes the reports practically useless for forecasting purposes. This matter was brought to the attention of the French Academy of Sciences at the meeting of January 6, 1908, and a resolution was past urging the government to make suitable provision for obtaining these reports by cable.

HODGKINS FUND PRIZE.

In connection with the International Congress on Tuberculosis, to be held in Washington September 21 to October 12, 1908, the Smithsonian Institution offers a prize of $1,500 from the Hodgkins Fund for the best treatise on the relation of atmospheric air to tuberculosis. Memoirs having relation to the cause, spread, prevention, or cure of tuberculosis are included within the general terms of the subject. The language may be English, French, German, Italian, or Spanish, and papers will be received until October 12, 1908.

The Hodgkins Fund, established in 1891, is devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." Liberal prizes are offered from time to time, and each competition is sure to bring out some notable contributions to science. An award of $10,000 from

[1] Gouvernement général de l'Afrique Occidentale Française. Notices publiées par le gouvernement général à l'occasion de l'exposition coloniale de Marseille. Service météorologique. Paris: É. Larose. 1906. 54 p. 8°.

this fund was made to Lord Rayleigh and Professor Ramsay for their discovery of argon and their memoir on the subject.

DOCTOR POLIS'S VISIT TO AMERICA.

Dr. P. Polis, the well-known director of the Meteorological Observatory of Aachen (Aix-la-Chapelle) has prepared a report of his official visit to the meteorological institutions of the eastern United States and Canada, carried out in the autumn of 1907, and it has been published in the form of a handsome octavo pamphlet under the auspices of the German Ministry of the Interior.[2]

Numerous illustrations, as well as reproductions of weather maps, bulletins, etc., are included in the volume, which has appeared with remarkable expedition, considering the elaborate character of the report.

Doctor Polis visited the Weather Bureau stations at Atlantic City, Buffalo, Boston, New York, and Pittsburg; the central office of the Meteorological Service of Canada, at Toronto; the meteorological observatory at McGill University, Montreal; Harvard University; the Blue Hill Observatory; and the research observatory of the Weather Bureau at Mount Weather; and finally spent a month at the Central Office of the Weather Bureau in Washington. Before sailing for Germany he attended the Aeronautical Congress in New York.

Doctor Polis's journey was undertaken especially with a view to obtaining suggestions useful to the new public weather service of Germany, of which he is an official.

A METEOROLOGICAL ALMANAC FROM BELGIUM.

M. Albert Bracke, of Mons, Belgium, is actively engaged in the "vulgarization" of meteorology (to use the French expression), by means of numerous and varied publications; viz, "La Revue Néphologique," a unique periodical devoted to the study of clouds; "Curiosités de l'Atmosphère," a series of brochures devoted to miscellaneous meteorological topics, of which eight numbers have appeared; "Publications de la Station Météorologique de Mogimont," devoted more especially to the investigation of Belgian thunderstorms; besides a great number of occasional publications. M. Bracke is, in fact, one of the most prolific writers in the domain of popular meteorology.

One of the latest enterprises of this writer is a meteorological almanac, published as an adjunct to the semi-monthly aeronautical publication, "La Conquête de l'Air," and known as "Almanach de la Conquête de l'Air," of which the volume for 1908 has recently been issued. This publication includes blank forms upon which the amateur meteorologist may record his observations from day to day; tables of daily normal temperatures for Brussels; the weather folk-lore of each month of the year; a chronicle of weather happenings in Europe during the preceding year (in the manner of the popular weather chronicles of our forefathers; a *genre* now rather too rare in meteorological literature); and numerous little articles on meteorological topics, of which we have space to mention only an illustrated account of Flammarion's private observatory at Juvisy.

A MODEL METEOROLOGICAL SERVICE IN SOUTH AMERICA.

An interesting exception to the general neglect of meteorology in South America is the state of São Paulo, in Brazil, which possesses an official meteorological service not inferior to the average of those of Europe, and a greater number of stations per unit area, as well as a much larger percentage provided with self-recording instruments, than even the well-known service of the Argentine Republic.

São Paulo is one of the richest of the Brazilian states and the greatest producer of coffee, exporting thru its chief port, Santos, more coffee than any other district in the world. There is a large German population; a fact that probably accounts for the amount of attention paid here to meteorology and other sciences.

The meteorological service began in 1887 with two stations, and has steadily grown, thanks to the untiring efforts of its successive directors, Derby, Loefgren, and Belfort Mattos. The central office is at São Paulo, the capital of the state, and has a staff comprising a director, assistant director, and five meteorologists. The other stations are mainly in the charge of school teachers, telegraph officials and engineers, who are paid small stipends for their meteorological work. Observations are taken at 7 a. m., 2 p. m., and 9 p. m. Nearly half the stations are supplied with self-recording barometers, thermometers, anemometers, and rain gages of the latest pattern. Stations have not yet been established in the western part of the state, which is still a wilderness, inhabited mainly by Indians.

The climatic data collected by this service were utilized by E. L. Voss, a former official of the service, in the elaboration of his extensive work on the climate of the southern States of Brazil, as well as in his more recent work on the rainfall of South America; published as "Ergänzungshefte" Nos. 145 and 157, respectively, to Petermanns Geographische Mitteilungen (Gotha, 1903 and 1907).

The meteorological service of São Paulo is known officially as the "Meteorological Section of the Directory of Agriculture," having been transferred last year from the State Geographical and Geological Commission. In consequence of this transfer a new series of its quarterly bulletin, "Dados Climatologicos," has just begun.

NECROLOGY.

Lieut.-Col. R. L. J. Ellery, C. M. G., F. R. S., a well-known Australian meteorologist and astronomer, died January 16, 1908. Colonel Ellery was for many years director of the Melbourne observatory and government astronomer of Victoria, and as such the official head of meteorology in that colony. He was president of the Royal Society of Victoria for twenty-three years.

Alexander Faber, owner and publisher of a leading daily newspaper in Magdeburg, Germany, the Magdeburgische Zeitung, died February 2, 1908, in his sixty-fourth year. In connection with his paper he maintained, from 1880, a well-equipped meteorological observatory, known as the "Wetterwarte der Magdeburgischen Zeitung," issued daily weather maps, and fostered the organization of a meteorological society which established a network of meteorological stations thruout central Germany. The first director of the Magdeburg Observatory, Richard Assmann, now director of the Aeronautical Observatory at Lindenberg, contributes a notice of Faber to the February number of Das Wetter.

The founder and former director of the Meteorological Observatory of Zágráb (Agram), Hungary, Prof. Ivan Stozir, died on February 12.

Notices of the deaths of Albert Lancaster and Sir Richard Strachey appear above. As these notes go to press news is received of the death of the distinguished Anglo-Indian meteorologist, Sir John Eliot; an account of his life will appear in a later number of the REVIEW.

MR. THOMAS S. COLLINS.

Mr. Thomas S. Collins, Observer, Weather Bureau, died suddenly at Fort Smith, Ark., February 23, 1908. Mr. Collins was a member of the Service from 1872 until his death, with the exception of about a year in 1878–79, serving at some twenty stations, and was a faithful and efficient employee. He was a soldier in an Illinois regiment for three years during the Civil War.

[2] Polis, P. Der Wetterdienst und die Meteorologie in den Vereinigten Staaten von Amerika und in Canada. Studienreise unternommen im Auftrage des Kgl. Preuss. Ministers für Landwirtschaft, Domänen und Forsten. Berlin: Verlagsbuchhandlung Paul Parey. 1908.